MAMEDALIYEV, M.G., inzh. (Baku); KRONGOL'D, Ye.S., inzh. (Baku);
TOCHILOV, V.I., inzh. (Baku)

Two cases of accidents in the construction of a large water conduit. Vod.i san. tekhn. no.10:33-34 O '62. (MIRA 15:12)
(Aqueducts) (Building--Accidents)

USSR/Chemistry - Hydrocarbon oxidation

Card 1/1 : Pub. 147 - 4/21

Authors : Ioffe, I. I.; Levin, Ya. S.; Sokolova, E. V.; Kronich, I. G.; and Shirokova, N. I.

Title : Study of the kinetics and mechanism of vapor-phase incompleted oxidation of benzene with molecular oxygen

Periodical : Zhur. fiz. khim. 28, 1386-1394, Aug 1954

Abstract : The kinetics of benzene oxidation with molecular O, was investigated at high hydrocarbon concentrations and relatively low temperatures and pressures. It was found that the kinetics of oxidation reaction corresponds to the kinetics of a degenerated explosion. The relation between the rate of reaction, benzene:oxygen ratio and partial O-pressure, was established. The inhibiting effect of the quartz surface on the volumetric reaction of benzene oxidation, is discussed. Six references: 2-USSR and 4-English (1929-1950). Tables; graphs ; drawings.

Institution : The K. E. Voroshilov Scientific Research Institute of Organ. Semi-Products and Dyes

Submitted : July 3, 1953

USSR/Chemistry - Hydrocarbon oxidation

Card 1/1 : Pub. 147 - 5/21

Authors : Ioffe, I. I.; Levin, Ya. S.; and Kronich, I. G.

Title : Induction of the reaction of benzene oxidation

Periodical : Zhur. fiz. khim. V. 28 8, 1395-1398, Aug 1954

Abstract : The inductive effect of hydrocarbons other than benzene on the oxidation of benzene, was investigated. The principle problems of induction and the circle of compounds found to be most suitable for such induction, are listed. The intensity of benzene oxidation was estimated by the amount of phenol formed as a product of oxidation. The effect of adding ozone to the reaction mixture, is described. Five references: 2-USSR; 1-USA and 1-English (1940-1954). Tables; drawing.

Institution : The K. E. Voroshilov Institute of Organic Semi-Products and Dyes, Moscow

Submitted : July 25, 1953

5(4) SOV/76-33-4-18/32

AUTHORS: Ioffe, I. I., Levin, Ya. S., Kronich, I. G.

TITLE: Investigations in the Field of the Kinetics and the Mechanism of the Vapor Phase Oxidation of Aromatic Hydrocarbons (Issledovaniya v oblasti kinetiki i mekhanizma parofaznogo okisleniya aromaticheskikh uglevodorodov). VII. The Effect of Water Vapor on the Thermal Oxidation of Benzene by Molecular Oxygen (VII. Vliyaniye vodyanogo para na termicheskoye okisleniye benzola molekulyarnym kislorodom)

PERIODICAL: Zhurnal fizicheskoy khimii,1959, Vol 33, Nr 4,pp 863-868 (USSR)

ABSTRACT: The investigations of benzene oxidation with an oxygen water vapor mixture were carried out in an apparatus and according to the method of the work reported in reference 2. The water vapor (WV) was introduced into the quartz reactor (volume of 50 or 100 ml) by an automatically operating portioner. In order to examine the specific influence exercised by (WV) parallel investigations were carried out with oxygen-nitrogen mixtures (Table 1). It was found that in the mixtures with (WV) (under the same conditions) a phenol (I) yield which is by 20% higher is obtained. With rising temperature the yield in (I) is reduced (with and without (WV), Table 2). An increase of the reactor volume gives the same yield of (I) at the same degree

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Investigations in the Field of the Kinetics and the Mechanism of the Vapor Phase Oxidation of Aromatic Hydrocarbons. VII. The Effect of Water Vapor on the Thermal Oxidation of Benzene by Molecular Oxygen

of conversion of benzene at a simultaneous temperature decrease and a prolonged reaction time (Table 3). The reduction of the ratio benzene/oxygen in the reaction mixture leads to an extension of the process of complete combustion (Table 4). An increase of the relative amount of the (WV) added leads to the general conversion of benzene and increases the yield in (I) (Table 5 for experiments at 725° in a 50 ml reactor). The positive influence exercised by (WV) on the yield in (I) is explained from a point of view already described by way of benzene oxidation (Ref 4). There are 1 figure, 5 tables, and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley im. K. Ye. Voroshilova (Institute of Organic Semi-Products and Dyes imeni K. Ye. Voroshilov)

SUBMITTED: September 25, 1957

Krentsel, I. G.

PHASE I BOOK EXPLOITATION SOV/3921

Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] 10: Fizika i fiziko-khimiya kataliza (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physico-Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Errata slip inserted. 2,600 copies printed.

Eds.: S.Z. Roginskiy, Corresponding Member of the Academy of Sciences USSR, and O.V. Krylov, Candidate of Chemistry; Ed. of Publishing House: A.L. Bankvitser; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of articles is addressed to physicists and chemists and to the community of scientists in general interested in recent research on the physics and physical chemistry of catalysis.

COVERAGE: The articles in this collection were read at the conference on the Physics and Physical Chemistry of Catalysis organized by the Otdel khimicheskikh nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by the Academic Council on the problem of "the scientific bases for the selection of catalysts." The Conference was held at the Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry of the AS USSR) in Moscow, March 20-23, 1958. Of the great volume of material presented at the conference, only papers not published elsewhere were included in this collection.

III. SOME GENERAL PROBLEMS OF CATALYSIS

IV. ACID - BASE CATALYSIS

Card 2/

IOFFE, I.I.; DOBROVOL'SKIY, S.V.; LEVIN, Ya.S.; GRIZIK R.M.; KAMBULOVA, V.A.; KRONICH, I.G.; SOKOLOVA, Ye.V.

Similarity of reactions catalyzed by liquid and solid acids. Probl. kin. i kat. 10:294-297 '60. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.
(Acids) (Naphthylamine) (Naphthol)

DOBROVOL'SKIY, S.V.; GRIZIK, R.M.; KRONICH, I.G.; IOFFE, I.I.

Catalytic aryl amination of β-naphthol. Org. poluprod. i kras. no.2:148-150 '61. (MIRA 14:11)
(Amination) (Naphthols)

KRONIDOV, I.I.; KUMPAN, A.S.; RYABKOVA, M.S.

New data on the geological pattern and structural features of the Balkhash region and Sary-su Depression, based on the results of aeromagnetic prospecting [with summary in English]. Sov. geol. 1 no.8:54-71 Ag '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut.
(Kazakhstan -- Geology) (Prospecting -- Geophysical methods)
(Rocks -- Magnetic properties)

KRONIDOV, I.I.; DRUKHOVSKIY, A.A.

Some problems relative to the methods of interpreting aeromagnetic data in Kazakhstan. Izv.AN Kazakh.SSR Ser.geol. no.4:88-108 '59. (MIRA 15:4)

(Kazakhstan—Magnetic prospecting)

S/169/62/000/007/064/149
D228/D307

AUTHOR: Kronidov, I. I.

TITLE: Distinguishing tectonic fractures from aeromagnetic data (Discourse theses)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 30, abstract 7A198 (V sb. Sostoyaniye i perspektivy razvitiya geofiz. metodov poiskov i razvedki polezn. iskopayemykh, M., Gostoptekhizdat, 1961, 515)

TEXT: The author considers a number of criteria that allow tectonic fractures to be distinguished from aeromagnetic data. The chief ones are: 1) The different character of the magnetic field's articulation; 2) the change in the depths of the upper edge of magnetic rocks; 3) linearly-extending positive or negative magnetic anomalies (shatter zone mineralization, the appearance of magnetic minerals, and in major fissures the appearance of magmatic material); and 4) the minimum of T (the irreversible decrease in the magnetization intensity of rocks in the shatter zone under the in-

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Distinguishing tectonic fractures ... S/169/62/000/007/064/149
D228/D307

fluence of stresses and also of silification, pyritization, and other mineralization). [Abstracter's note: Complete translation.]

Card 2/2

DUKHOVSKIY, A.A. ; KRONIDOV, I.I.

Types of ΔT magnetic fields over certain complexes of rocks in central Kazakhstan. Inform.sbor.VSEGEI no.45:29-43 '61. (MIRA 14:12)
(Kazakhstan--Magnetic anomalies)
(Kazakhstan--Geology--Maps)

DONSKIKH, V.V.; KRONIDOV, I.I.

Relation of local negative magnetic anomalies to relicts of Upper Paleozoic volcanoes of central Kazakhstan. Trudy VSEGEI 104:158-169 '64. (MIRA 18:1)

BELYAKOVA, Ye.Ye.; REZNIKOV, A.A.; KRAMARENKO, L.Ye.; NECHAYEVA, A.A.; KRONIDOVA, T.F.; ZAYTSEV, I.K., red.; ENTIN, M.L., red. izd-va; BYKOVA, V.V., tekhn. red.

[Geochemical method of searching for ore deposits in arid and semiarid regions]Gidrokhimicheskii metod poiskov rudnykh mestorozhdenii v aridnykh i poluaridnykh oblastiakh. [By] E.E.Beliakova i dr. Moskva, Gosgeoltekhizdat, 1962. 266 p. (MIRA 15:9)
(Geochemical prospecting)

ISAKOV, I.S., prof., admiral flota v otstavke, otv.red.; PETROVSKIY, V.A., dotsent, kand.voyenno-morskikh nauk, kontr-admiral, zamestitel' otv.red-ra [deceased]; DEMIN, L.A., dotsent, kand.geograf.nauk, inzh.-kapitan 1 ranga, glavnyy red.; BERG, S.L., inzh.-mayor, red.; PAVLOVA, O.T., red.; PANIN, I.S., red.; KRONIDOVA, V.A., red.; MARAGINA, A. S., red.; SHIROKOVA, V.S., red.; BOGOLYUBOVA, Ye.D., inzh.-kartograf; BRAILOVSKAYA, Ye.D., inzh.-kartograf; ZININA, Ye.M., inzh.-kartograf; ORLOVA, N.S., inzh.-kartograf; SAVINOVA, G.N., inzh.-kartograf; ALEKSEYEVA, A.V., tekhnik-kartograf; BALAKSHINA, M.M., tekhnik-kartograf; GRIGOR'YEV, A.P., tekhnik-kartograf; DUBOVA, T.P. tekhnik-kartograf; MILETINA, M.S., tekhnik-kartograf; SIMAVONOVA, O.B., tekhnik-kartograf; TROPOVA, Z.V., tekhnik-kartograf; SHUMAN, E.E., tekhnik-kartograf; FURAYEVA, Ye.M., tekhn.red.; SVIDERSKAYA, G.V., tekhn.red.; CHERNOGOROVA, L.P., tekhn.red.; SHREYDER, L.Z., tekhn.red.

[Marine atlas] Morskoi atlas. Otv. red. I.S. Isakov. Glav. red. L.A. Demin. Izd. Morskogo general'nogo shtaba. [---Index of geographical names] ---Ukazatel' geograficheskikh nazvanii. 1952. 543 p. (MIRA 12:1)

1. Russia (1923- U.S.S.R.) Voyenno-morskoye ministerstvo. (Ocean--Maps) (Harbors--Maps)

BERG, S.L., polkovnik; VOROB'YEV, V.I., kapitan pervogo ranga; GIL'BO, G.M., kapitan pervogo ranga; ANANCHENKO, A.A.; BALAKSHINA, M.K.; BANNIKOV, B.S., kapitan vtorogo ranga; BAKHTINA, G.F.; BERENSHTAM, N.V.; BUTYRINA, N.Ya.; VOROB'YEV, V.I., kapitan pervogo ranga; GASS, I.P.; GINBYSH, N.S.; GLADIN, D.F., polkovnik; GOLOVANOVA, L.G., kand. ist. nauk; GOLUBEVA, Z.D., kand. filol. nauk; GONCHAROVA, A.I.; ZANADVOROVA, R.N.; IVANOVA, N.G.; KARAMZIN, G.B.; KOVAL'CHUK, A.S.; KRONIDOVA, V.A.; LITOVA, Ye.I.; MOLCHANOVA, T.I.; OKUN', L.S.; POCHEBUT, A.N.; RAYTSES, V.I.; SAVINOVA, G.N.; SENICHKINA, T.I.; SKRYNNIKOV, R.G., kand. ist. nauk; FURAYEVA, I.I.; CHIZHOVA, N.N.; YASINSKAYA, L.F.; GLADIN, D.F., polkovnik; LABETSKIY, Ye.F., podpolkovnik; LEBEDEV, S.M., kapitan pervogo ranga; ORDYNSKIY, N.I., kapitan pervogo ranga; NADVODSKIY, V.Ye., podpolkovnik; DEMIN, L.A., inzh.-kontr-admiral, glav. red.; FRUMKIN, N.S., polkovnik, zam. otv. red.; LEVCHENKO, G.I., admiral, red.; BAKHTINA, G.F., tekhn. red.

[Naval atlas] Morskoi atlas. n.p. Izd. Glavnogo Shtaba Voenno-Morskogo Flota. Vol.3. [Naval history] Voenno-istoricheskii. Pt.1. [Text for the maps] Opisaniia k kartam. 1959. xxii, 1942 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo oborony. (Naval history)

KRONIK, A., [illegible] z pras

S[illegible]. [illegible]. veit. 43 no.12:7-9 D '63. (MIRA 17:2)

KRONIK, A.Ya. (Saratov)

New developments in the organization of freight transportation in small consignments. Zhel. dor. transp. 43 no. 1:63-65 Ja '61. (MIRA 14:4)

1. Zamestitel' nachal'nika gruzovoy sluzhby Privolzhskoy dorogi. (Railroads—Freight)

LITVINENKO, M.S.; KHVAT, M.B.; BRODOVICH, A.I.; PERTSEVA, N.Ya.; PERMAN, N.M.; Prinimali uchastiye: LOPATINSKIY, D.K.; AGARKOVA, V.I.; SAMOKHVALOVA, N.N.; KRONIK, I.L.

Obtaining sodium thiocyanate for the manufacture of nitron fibers. Koks i khim. no.6:34-40 '63. (MIRA 16:9)

1. Ukrainskiy uglekhimicheskiy institut (for Livinenko, Khvat, Brodovich, Kronik, Pertseva). 2. Khar'kovskiy koksokhimicheskiy zavod (for Perman).
(Textile fibers, Synthetic) (Sodium thiocyanate)

KHONIK, M.

"Problems of Qualitative Planning of Production. Tr. from the Russian", P. 17. (TOVARTEPMELES, Vol. 8, No. 3, Mar. 1954, Budapest, Hungary)

SO: Monthly List of East European Accessions,(EPAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

KRONIK, N.

Competition on order and cleanliness in workshops and for high production culture in the USSR.

P. 153
Vol. 8, no. 5, Sept./Oct. 1954
PRZEMYSL WLOKIENNICZY
Lodz

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 5, no. 2
Feb. 1956

KRONIK, L.

The use of lumber waste in light industry. p. 313

PRZEMYSL DRZEWNY (Stowarzyszenie i Techników Lesnictwa i Drzewnictwa)
Warszawa, Poland
No. 4, April 1959

Monthly list of East European Accession Index (EEAI), LC Vol. 8, No. 11
November 1959
Uncl.

KRONILOV, I. I.

Nature of the oxide film of Fe-Cr-Al solid solution. I. I. Kronilov and I. I. Sidorenchin (*Compt. rend. Acad. Sci. U.R.S.S.*, 1944, **12**, 20—23).—The oxide films formed by heating a Fe Cr Al alloy (Fe 70, Cr 25, Al 5%) for 12 hr. at 400—1000° were studied by electron diffraction and at 1200° by chemical and X-ray analysis. The oxide film is of the cubic type; with increasing temp. of oxidation the lattice const. decreases until at 1000° it is approx. that of γ-Al_2O_3. Lower-temp. films consist of isomorphous mixtures of the oxides of Fe, Cr, and Al of the spinel type. The film formed at 1200° consists of 96-72% of Al_2O_3; this film crumbles easily and is the portion determined by the loss of wt. method for determining the thermo-stability.

J. F. H

POKHVALOV, Yu.Ye., inzh.; KRONIN, I.V., inzh.; KURGANOVA, I.V., inzh.

Heat transfer during the boiling of underheated water in pipes. Teploenergetika 10 no.11:74-80 N '63. (MIRA 17:1)

1. Moskovskiy inzhenerno-fizicheskiy institut.

POKHVALOV, Yu. Ye.; KRONIN, I. V.; KURGANOVA, I. V.

"Investigation of single-phase convective heat transfer in tube with high heat fluxes (to 21 x 10^6 kcal/m^2 hr) for water and ethyl alcohol."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Moscow Engineering & Physical Inst.

L 25436-66 EPF(n)-2/EWT(l)/EWT(m)/ETC(f)/EWG(m) WW/GS
ACC NR: AT6005819 SOURCE CODE: UR/0000/65/000/000/0112/0126

AUTHORS: Pokhvalov, Yu. Ye.; Kronin, I. V.; Kurganova, I. V. 57 B+1

ORG: none

TITLE: Investigation of heat transfer from boiling underheated water in a tube

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat, 1965, 112-126

TOPIC TAGS: boiling, heat transfer, nuclear reactor technology, nuclear reactor coolant

ABSTRACT: In view of the lack of reliable data on the prospects of forced cooling of reactors with underheated liquids boiling in tubes, the authors have set up experiments over a wide range of operating conditions, with provisions for continuing monitoring the cleanliness of the heat-transfer surface. To this end they designed, constructed, and tested an experimental setup consisting of a closed circulating

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ACC NR: AT6005819

loop of stainless steel, with a set of control instruments, automatic regulation devices and protective equipment. The main units are a specially developed stainless steel pump and a working channel with various pickups and filters. The equipment, its operation, and heat transfer results at various pressures are presented. The experiments were made over a wide range of heat flux, velocities, and underheatings, and yielded various relations between the heat flux and the superheating of the tube walls. Empirical relations for the results under fully developed and undeveloped boiling conditions are presented to approximate the experimental data. The results are compared with the data obtained by others. Orig. art. has: 7 figures and 2 formulas.

SUB CODE: 18/ SUBM DATE: 05Jun65/ ORIG REF: 014/ OTH REF: 004

Card 2/2 CC

L 25434-66 EPF(n)-2/EWP(j)/EWT(1)/EWT(m)/ETC(f)/EWG(m) IJP(c) RM/WW/GS
ACC NR: AT6005820 SOURCE CODE: UR/0000/65/000/000/0127/0136

AUTHORS: Pokhvalov, Yu. Ye.; Kronin, I. V.; Kurganova, I. V. 63 B+1

ORG: none

TITLE: Investigation of heat transfer during boiling of underheated ethyl alcohol in a tube

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat, 1965, 127-136

TOPIC TAGS: ethyl alcohol, boiling, heat transfer, heat exchange, pressure effect

ABSTRACT: An experimental test loop described in a companion paper in the same source (MIFI, Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov, Atomizdat, 1965, 112 -- 165; Acc. AT605819) was used for the investigations. A complication was introduced by a deposit formed on the tube walls as a result of decomposition of the

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ACC NR: AT6005820

alcohol, which necessitated periodic cleaning of the working tube and checking the reproducibility of the results. The test schedule and results of measurements of the heat transfer from ethyl alcohol at pressures ranging from 1.5 to 60 bars at heat loading ranging from 0.232 to 5.8 MW/m^2, velocities 1 -- 23 m/sec, and liquid temperature from 20 to 235C are presented in the form of graphs. Two general empirical formulas to fit the experimental results are also given. The test results agree with the two formulas within 20%. Orig. art. has: 7 figures and 5 formulas.

SUB CODE: 20/ SUBM DATE: 05Jun65/ ORIG REF: 012/ OTH REF: 002

Card 2/2 CC

L 25435-66 EPF(n)-2/EWT(1)/EWT(m)/ETC(f)/EWG(m) WW/GS
ACC NR: AT6005821 SOURCE CODE: UR/0000/65/000/000/0137/0142

AUTHORS: Pokhvalov, Yu. Ye.; Kronin, I. V.; Kurganova, I V. 54 B+1

ORG: none

TITLE: Results of investigation of the average heat transfer in forced convection in a tube and at high thermal loads

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat, 1965, 137-142

TOPIC TAGS: heat transfer, boiling, convective heat transfer, water, ethyl alcohol

ABSTRACT: The apparatus described in detail in a companion paper (MIFI, Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov, Atomizdat, 1965, 112 -- 126; Acc. AT605819) was used in the investigations. The measurements were made with distilled water (hardness 0.5 -- 1 μg-eq/l; alkalinity -- 20 μg-eq/l; dry residue -- 0.1 mg/l) and rectified ethyl alcohol (95% by volume). The cleanliness of the

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ACC NR: AT6005821

surface and the parameters of the water and the density of the alcohol were periodically monitored. The tests were made within the following limits: heat load 0.232 -- 24.4 MW/m^2, pressure 1.5 -- 90 bar, liquid velocity 1 --23 m/sec, water temperature 18 -- 273C, ethyl alcohol temperature 18 -- 192C, Reynolds number 10^4 -- 0.827 x 10^6, Prandtl number 18 -- 0.87. The results are tabulated and are found to be in fair agreement with the empirical formulas of V. V. Yakovlev (Atomnaya energiya, v. 8, 3, 250, 1960 and v. 2, 2, 179, 1957), but deviate greatly from the formulas of M. A. Mikheyev (Teploperedacha i teplovoye modelirovaniye [Heat Transfer and Thermal Simulation], Moscow, AN SSSR, 1959, p. 122). Orig. art. has: 1 figure, 2 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 05Jun65/ ORIG REF: 004/

Card 2/2

KRŪMIŅŠ, JĀNIS JĒKA D.

Rokasgramata kolchoau mezkopjiem. Riga, Latvijas valsts izdevniecība, 1957. 319 p. (Reference book for foresters on collective farms)

DA Not in DLC

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, 1958

KRONITIS, Yan Yanovich [Kronitis, J.]; ZANDER, R., spets. red.; SPRIVULIS, Z., red.; MIRONOV, A., tekhn. red.

[Manual for collective farm foresters] Spravochnik kolkhoznogo lesovoda. Perevod so 2-go izd. Riga, Latviiskoe gos. izd-vo, 1959. 446 p. (MIRA 14:10)

(Collective farms) (Foresters)

KRONJA, T. (Zagreb)

Comparative analysis of legal psychiatric cases in population and in armed forces. Neuropsihijatrija 4 no.3-4:218-225 1956.

(MENTAL DISORDERS, statist.
in civilian population & in armed forces, comparative analysis (Ser))

Armija, military

KRONJA, Tomislav, Pukovnik dr.

Various experiences with the use of medical specialists in military units. Voj. san. pregl., Beogr. 13 no.5-6:301-302 May-June 56.

(MEDICINE, MILITARY AND NAVAL,
Decentralisation of med. specialists from military hosp. to military units (Ser))

KROLJA, Tomislav, Pukovnik dr.; OBERSON, Duro, potpukovnik dr.

Evaluation of the fitness of feebleminded for military service.
Voj. san. pregl., Beogr. 13 no.9-10:471-476 Sept-Oct 56.

1. Sanitetsko odeljenje Zagrebacke armiske oblasti.
(MENTAL DEFICIENCY,
fitness of feebleminded for military serv. (Ser))
(MEDICINE, MILITARY AND NAVAL
same)

KRONJA, Tomislav, Generalmajor sanitetske sluzbe, D-r.

Case of dissimulation; contribution to military medical expert testimony. Voj. san. pregl. Beogr. 15 no.9:654-656 Sept 58.
(SELF-MUTILATION, case reports
expert testimony in military case (Ser))
(EXPERT TESTIMONY,
in military case of self-mutilation (Ser))

KRONJA, Tomislav, D-r., Generalmajor sanitetske sluzbe

Analysis of certain causes of suicide in armed forces personnel. Voj. san. pregl., Beogr. 15 no.12:889-892; contd. Dec 1958.

1. Vojnomedicinska akademija u Beogradu.
(ARMED FORCES PERSONNEL, psychol.
suicide, causes (Ser))
(SUICIDE,
causes in armed forces personnel (Ser))

KRONJA, Tomislav (Beograd)

Problems and role of psychiatric care during the wartime. Neuropsihijatrija 7 no.1-2:102-110 '59.
(PSYCHIATRY)
(MILITARY MEDICINE)

JOVANOVIC, Dragoljub, prof. d-r, [deceased]; KANDIC, Branko, doc. d-r; KRONJA, Tomislav, doc. d-r

Our experience with the treatment of mental patients with lysergic acid diethylamine (LSD-25). Voj.san.pregl. 17 no.3: 251-256 Mr '60.

1. Vojnomedicinska akademija u Beogradu.
(LYSERGIC ACID DIETHYLAMINE ther.)
(MENTAL DISORDERS ther.)

/..

KRONJA, Tomislav, Generalmajor sanitetske sluzbe doc. d-r

On the personality. Voj.san.pregl., Beegr. 17 no.3:282-287 Mr '60.
(PERSONALITY)

KRONJA, T.

Prof. Dr. Dragoljub Jovanovic, Colonel of the medical service.
Voj.san.pregl., Beogr. 17 no.3:293-294 Mr '60.
(OBITUARIES)

JOVANOVIC, Dragoljub, sanitetski pukovnik, [deceased]; KANDIC, Branko, sanitetski pukovnik doc. d-r; KRONJA, Tomislav, generalmajor sanitetske sluzbe.

Contribution to the investigation of the effect of LSD-25 in experiments in dogs. Vojsan. pregl., Beogr. 17 no.4:419-425 Ap '60.

1. Klinika za zivcane i dusevne bolesti.
(LYSERGIC ACID DIETHYLAMINE pharmacol.)

KRONJA, Tomislav, general-mahor sanitetske sluzbe doc. dr

Problems of mental hygiene from the viewpoit of national defense.
Voj.san.pregl., Beogr. 17 no.11:1184-1188 N '60.

1. Vojnomedicinska Akademija u Beogradu
(MENTAL HYGIENE)

KRONJA, T.

Alcohol as a factor responsible for criminal acts. Analysis of legal psychiatric cases in the Vrapce-Zagreb Hospital for Mental Patients (1949-1958). Neuropsihijatrija 9 no.4:296-302 '61.

1. Vojnomedicinska akademija, Beograd.

(ALCOHOLISM jurisprudence) (CRIMINOLOGY)

KRONJA, Tomislav, general-major sanitetske sluzbe, dr.

Contribution to the study of criminal aspects of the psychopathic personality. Voj.san.pregl. 18 no.5:450-455 My '61.

1. Vojnomedicinska akademija u Beogradu.

(PSYCHOPATHIC PERSONALITY)

YUGOSLAVIA

V. PRODANJA, Military Medical Academy (Vojnomedicinska akademija) Belgrade.

"[illegible] of Mental Health in Our Country."

Belgrade, Vojnoto, Vol 14, No 2-3-4, 1962; pp 140-153.

Abstract: Factors natural population increase, changing patterns of age [illegible]. Infant mortality in Yugoslavia as compared with various other countries; economic rapidity of sociologic change (percentage of farmers in population increased from 75 to 50 between 1940 and 1960;) the role of women in industry; village-to-city migration; rapid lysis of traditions [illegible] fear; alcoholism; accidents. Tangentially questions official economic priorities (plants and machinery versus preventive medical [illegible] including psychiatric staffs and installations.) Fifteen [illegible] virtually illegible charts; 8 Yugoslav references.

KRONJA, Tomislav, general-major sanitetske sluzbe dr

Some aspects of the responsibility of young soldiers. Vojnosanit. pregl. 19 no.12:823-827 D '62.
(PSYCHOLOGY, MILITARY)

KRONJA, Tomislav, general-major sanitetske sluzbe

Current views on the cause of neuroses. Vojnosanit. pregl. 20 no.8:495-501 Ag '63.

(NEUROSES)

S

KRONJA, Tomislav, general-major sanitetske sluzbe, dr.

Some aspects of responsibility of young soldiers (young adults).
Vojnosanit. pregl. 20 no.1/2:14-18 Ja-F '63.

(PSYCHOLOGY, MILITARY)

S

BELITSKIY, Mikhail Ivanovich, Geroy Sotsialisticheskogo Truda, brigadir brigady rabochikh ochistnogo zatoya; KRONK, Leonkhard Antonovich, Geroy Sotsialisticheskogo Truda, pomoshchnik mastera; DZAMASHVILI, Archil Vasil'yevich, Geroy Sotsialisticheskogo Truda, deputat Verkhovnogo Soveta GruzSSR, master domennogo tsekha; TISHEYEV, Saydulla, Geroy Sotsialisticheskogo Truda, plavil'shchik; REZNIKOV, Aleksey L'vovich, Geroy Sotsialisticheskogo Truda, master.

We will achieve the triumph of communist labor. Okhr. truda i sots. strakh. 3 no.7:5-12 Jl '60. (MIRA 13:8)

1. Shakhta imeni Lenina tresta Nesvetayantratsit," Rostovskoy oblasti (for Belitskiy). 2. Starotkatskaya fabrika ordena Lenina kombinata "Krengol'mskaya manufaktura" Estonskoy SSSR (for Kronk). 3. Zakavkazskiy metallurgicheskiy zavod imeni Stalina (for Dzamashvili). 4. Kadamzhayskiy metallurgicheskiy zavod Yuzhnogo gornometallurgicheskogo kombinata imeni Frunze, Kirgizskoy SSR (for Tisheyev). 5. Neftepromyslovoye upravleniye "Nebitdagneft'" Turkmenskoy SSR (for Reznikov).
(Technological innovations) (Industrial hygiene)

KRONKALN, L. A. and PETROV, G. A.

"Basic Data and Characteristics of a DC 1650/3300 Motor Car Section" (Osnovnyye dannyye i kharakteristiki motorvagonnoy sektsii 1650/3300 v postoyannogo toka), Transzheldorizdat, 1949, 80 pp.

KRONKALN, L.A., kandidat tekhnicheskikh nauk; KALININ, V.K., inzhener, redaktor

[Work practices of electric locomotive engineers] Opyt raboty elektrovoznykh mashinistov. Moskva, Gos. transp.zhel-dor. izd-vo, 1954. 22 p. [Microfilm] (MLRA 10:1)
(Electric locomotives)

KARTASHEV, V.I., inzhener; KHONKALN, I.A., kandidat tekhnicheskikh nauk; TSKIPURISHVILI, V.B., kandidat tekhnicheskikh nauk; SIDOROV, N.I., inzhener, redaktor; YUDZON, D.M., tekhnicheskiy redaktor

[Problems in increasing the runs of electric locomotives between repairs; on the basis of progressive practices of electric locomotive machinists and repairmen in shops and plants] Voprosy uvelicheniia mezhremontnykh probegov elektrovozov; na osnove peredovogo opyta elektrovoznykh mashinistov-tiazhelovesnikov i rabotnikov remontnykh tsekhov depo i zavodov. Moskva, Gos. transp.zhel-dor. izd-vo, 1956. 90 p. (MLRA 10:1)
(Electric locomotives)

STEINS, K.; KRONKALNS, S.

Changes in orbital elements for a complete comet's passage through the planetary system. Acta astronom 14 no.4:311-321 '64.

1. Astronomical Observatory of the Latvian State University. Submitted March 1964.

ISSAYEV, B. M.; KRONKHAUS, A. N.; TITOV, S. A.

"Integrating X-ray meter," Journal of Tech. Physics, Vol. 20, No. 11, 1950.

Kronman, A.G.

USSR/Organic Chemistry. Theoretical and General Questions of Organic Chemistry. E-1

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26661.

Author : Razuvayev, G.A.; Moryganov, B.N., Kronman, A.G.

Inst :

Title : Reaction Between Hexachloroethane and Isopropyl Alcohol Initiated by Benzoyl Peroxide.

Orig Pub : Zh. obshch. khimii, 1956, 26, No. 8, 2224 - 2228.

Abstract : When hexachloroethane (I) is boiled with isopropanol (II) in presence of benzoyl peroxide (III), the reaction proceeds according to the radical chain mechanism: initiation: III $\rightarrow 2C_6H_5COO^{\cdot} \rightarrow C_6H_5^{\cdot} + CO_2$; beginning of the chain: $C_6H_5COO^{\cdot} + II \rightarrow C_6H_5COOH +$

Card 1/

USSR/Organic Chemistry. Theoretical and General Questions of Organic Chemistry. E-1

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26661.

$CH_3C^{\cdot}(OH)CH_3$ (A); $C_6H_5^{\cdot} + II \rightarrow C_6H_6 + A$; chain: $A + I \rightarrow (CH_3)_2C - O - H - Cl - CCl_2CCl_3 \rightarrow CH_3COCH_2 + HCl + CCl_3CCl_2^{\cdot}$; chain transmission: $CCl_3CCl_2^{\cdot} \rightarrow CCl_2 = CCl_2 + Cl^{\cdot}$ $CCl_3CCl_2^{\cdot} + II \rightarrow A + CCl_3CCl_2H$; $Cl^{\cdot} + II \rightarrow A + HCl$; break of chain: $2A \rightarrow CH_3COCH_3 + II$. CO_2, HCl, acetone, benzene, phthalic and benzoic acids and pentachloroethane were found among the reaction products. The circumstance indicating the chain mechanism of the reaction is that if it is carried out with 1 mol of II and 0.125 mol of I in presence of 0.0124 mol of III, 24.1 mols of HCl and 16.7 mols of CH_3COCH_3 will be received per mol of III, while 0.0021 mol of III will produce 73.3 mols of HCl and 37 mols of acetone under the same conditions. The length ν of the

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86293

S/190/60/002/008/004/017
B004/B054

11.2210 also 2209

AUTHORS: Berlin, A. A., Kronman, A. G., Yanovskiy, D. M., Kargin, V. A.

TITLE: Modification of Polyvinyl Chloride by Rubbers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 8, pp. 1188-1192

TEXT: The authors attempted to make graft copolymers from vinyl chloride and rubbers. In contrast to the unsuccessful copolymerization with the aid of latex reported on in Ref. 2, they used coarsely disperse rubber emulsions. Photogelatins, Sulfanole, or polyvinyl alcohol were used as emulsifiers. Copolymerization was conducted by two methods: 1) Swelling or dissolving of the rubber in vinyl chloride at 40-70°C, and subsequent polymerization in an autoclave after adding ammonium persulfate as initiator; 2) rolling of the rubber with ammonium-persulfate powder at room temperature, and subsequent copolymerization with vinyl chloride in an autoclave at 60-70°C. Viniplast was made from the reaction products by adding calcium stearate, lead monoxide, Neozone D, and transformer oil, kneading at 155-170°C, and pressing. The resulting products showed worse physical

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Modification of Polyvinyl Chloride by Rubbers S/190/60/002/008/004/017
B004/B054

properties than pure polyvinyl chloride. On the other hand, a joint plastification of polyvinyl chloride (PVC) of the type ПФ-4 (PF-4) with НК (NK) natural rubber, СКБ (SKB) butadiene rubber, СКИ (SKI) isoprene rubber, СКН-26 (SKN-26) butadiene-nitrile rubber, and chloroprene rubber (nairit), led to the following results:

PVC combined with:	Content of rubber, %	toughness kg·cm/cm^2	tensile strength kg/cm^2	relative elongation, %
(without rubber)	0	8.6	550	82
natural rubber	10	9.7	354	4.4
butadiene rubber	10	6.7	350	5.8
isoprene rubber	10	3.7	357	9.7
nairit	10	16.5	437	81.5
butadiene-nitrile rubber	10	34.6	551	100

Rubbers with marked polarity (nairit, SKN-26) showed double to fourfold toughness. Hydrogen bonds are likely to form between the polar rubber and PVC. There are 2 figures, 2 tables, and 7 references: 1 Soviet, 4 US, 1 Belgian, and 1 French.

SUBMITTED: March 21, 1960

Card 2/2

86327

S/190/60/002/012/014/019
B017/B078

15.8102 2209

AUTHORS: Berlin, A. A., Kronman, A. G., Yanovskiy, D. M., Kargin, V.A.

TITLE: New Method of Obtaining Graft Copolymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 12, pp. 1839 - 1844

TEXT: A new method of obtaining graft copolymers by interaction between the polymers is suggested by the authors. This method permits to modify halogen-containing polymers with polymers having nitrogen-containing heterocycles. A case in point for such a reaction is the modification of PVC with methylvinylpyridine rubber under the formation of graft copolymers which are salts of quaternary polymer bases. Vinyl plastics obtained from such polymers have an impact strength ten times as high as that prepared solely from polyvinylchloride. Fig.1 illustrates the temperature dependence of some thermomechanical properties of some polyvinyl plastics. The two-stage formation of trimers is explained. Fig.2 illustrates the influence of the rubber content on the properties of polyvinyl plastics.

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New Method of Obtaining Graft Copolymers S/190/60/002/012/014/019
B017/B078

Fig.3 shows the vitrification temperature of polyvinyl plastics as a function of the admixtures. It is demonstrated that the thermal stability of polyvinyl plastics is not impaired by a methylvinylpyridine rubber content up to 25%. The method suggested here may be applied to vulcanize various halogen-containing polymers with methylvinylpyridine rubber. There are 3 figures and 13 references: 9 Soviet and 4 US.

SUBMITTED: May 24, 1960

Card 2/2

87642

S/191/60/000/012/001/016
B020/B066

11.2210 also 2209,

AUTHORS: Berlin, A. A., Kronman, A. G., Yanovskiy, D. M., Kargin, V.A.

TITLE: Impact-resistant Polyvinyl Chloride

PERIODICAL: Plasticheskiye massy, 1960, No. 12, pp. 2 - 3

TEXT: Heat resistance and impact of PVC are comparatively low which considerably confines its range of applicability in spite of its other good properties. It is possible to increase the impact strength of PVC by synthesizing vinyl chloride polymers grafted with various rubbers, by means of a chain transfer reaction. The mechanical properties of Viniplasts obtained by this method are, however, no better than those of Viniplast made of PVC. The present paper investigates the physical and thermomechanical properties of Viniplast obtained from compositions consisting of PVC coplasticized with a polar synthetic rubber (PSR). Owing to interaction of functional groups of PVC with the rubber, interlaced structures of grafted copolymers are formed. PVC was mixed with stabilizers (litharge, calcium stearate) which were hot-rolled along with the adequate amount of PSR. Plates were cut from thin foils of the rolled

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Impact-resistant Polyvinyl Chloride

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material, and a stack of them was hot-pressed. In the test of Viniplast containing 10% PSR of different types, its physical and mechanical properties ranged within the following limits: specific impact strength from 57.2 to 84.8 kg·cm/cm^2 (8.6 for initial PVC); maximum tensile strength from 397 to 530 kg·cm^2 (550 for PVC); vitrification point between 76 and 80°C (75°C for PVC). The addition of 10% PSR to the Viniplast, thus, increases the specific impact strength up to the 6 to 10 fold, whereas the tensile strength is somewhat reduced, and the vitrification point is maintained. The dependence of the specific impact strength, tensile strength and relative elongation on the rubber content in Viniplast was investigated (Figs.1-3). The optimum ratio of PVC:PSR for obtaining Viniplast with high specific impact strength is 90:10 (Fig.1). The introduction of 2.5% rubber increases the impact strength of Viniplast to the threefold. At a rubber content of 15 - 50%, Viniplast samples were not destroyed in the impact test owing to their high elasticity. With increasing rubber content, tensile strength and relative elongation of the material (Figs.2,3) decrease, and the surface of Viniplast becomes uneven and rough, beginning from a rubber addition of 25 - 30%. The temperature dependence of the specific impact strength

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Impact-resistant Polyvinyl Chloride

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of impact-resistant Viniplast was studied in a range of from -60° to +60°C, and it was found that a Viniplast with 5 and 10% PSR exceeds a Viniplast from PVC even at a temperature below 0°C. The specific properties of impact-resistant Viniplast become particularly manifest at room temperature. The absolute value of the specific impact strength could only be determined at temperatures below zero. Table 1 gives comparative data of this factor obtained on compositions with 90% PVC and 10% PSR, and on PVC samples. The principal physical and thermomechanical properties of impact-resistant Viniplast, as well as of PVC-Viniplast, are presented in Table 2. There are 4 figures, 2 tables, and 1 Soviet reference.

Card 3/3

RYLOV, Ye.Ye.; BORT, D.N.; MINSKER, K.S.; KRONMAN, A.G.; TEPLOV, B.F.

Some data on the crystalline polyvinyl chloride structure.
Zhur.strukt.khim. 2 no.5:615-616 S-O '61. (MIRA 14:11)
(Ethylene) (Crystals)

S/081/62/000/022/080/088
B101/B186

AUTHORS: Raskin, Ya. L., Sverdlin, M. S., Kronman, A. G., Yanovskiy, D. M.

TITLE: Paint and varnish coatings based on the copolymer obtained by the suspension method from vinyl chloride and vinyl acetate

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1962, 552, abstract 22P464 (Lakokrasochn. materialy i ikh primeneniye, no. 2, 1962, 10 - 12)

TEXT: Data are given for the composition and properties of copolymers (CP) synthetized by the suspension method from vinyl chloride and vinyl acetate, and for coatings made on this basis. In addition, recipes are given for primers and enamels based on this CP both in combination with other resins (epoxy, modified alkyd resin) and without them. Test results prove the high resistance to atmospheric effects, the good physico-mechanical properties, the resistance to water and light and the good appearance of coatings based on CP containing 16 - 17 % of vinyl acetate. [Abstracter's note: Complete translation.]

Card 1/1

S/064/62/000/002/003/008
B101/B144

15.9000

AUTHORS: Berlin, A. A., Kronman, A. G., Yanovskiy, D. M., Kargin, V. A.

TITLE: Impact resistant materials on the basis of graft copolymers of polyvinyl-chloride with elastomers

PERIODICAL: Khimicheskaya promyshlennost', no. 2, 1962, 20-24

TEXT: A survey of publications concerning an increase of the impact strength of polyvinyl-chloride (PVC) by copolymerization with methyl-vinyl pyridine rubbers and nitrile rubbers is given and data from the authors own studies are repeated. In addition, the Huggins constant K' for copolymers of PVC with CK MBΠ-15 (SK MVP-15), CKH-18 (SKN-18), and CKH-26 (SKN-26), calculated from the intrinsic viscosity is mentioned. The intrinsic viscosity was determined in cyclohexanone.

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Impact resistant materials ... S/064/62/000/002/003/008
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Solution investigated	[η]	K'
SK MVP-15	0.8	0.346
PVC	0.835	0.433
Reaction product	0.72	0.617
Mechanical mixture	0.8	0.356
SKN-18	1.78	0.656
PVC	1.01	0.248
Reaction product	0.915	0.397
Mechanical mixture	1.14	0.272
SKN-26	2.38	0.511
PVC	1.01	0.248
Reaction product	0.95	0.644
Mechanical mixture	1.085	0.491

The lower intrinsic viscosity of the copolymers is explained by their inferior solubility. The high K' is caused by a branched structure. When copolymerizing PVC with nitrile rubber or methyl-vinyl pyridine rubber, reaction between the Cl of PVC and the N of nitrile and pyridine,

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Impact resistant materials ...

respectively, sets in under formation of tridimensional structures. There are 4 figures, 3 tables, and 19 references: 9 Soviet and 10 non-Soviet. The four most recent references to English-language publications read as follows: L. C. Bateman, Ind. Eng. Chem., no. 4, 704 (1957); G. Bloomfield, P. Swift, J. Appl. Chem., no. 11, 609 (1955); J. E. Gordon, C. C. Turrell, J. Org. Chem., 24, 269 (1958); S. E. Bolam, Austral. Plastics, 10, no. 107, 18 (1954).

X

Card 3/3

BERLIN, A.A.; KRONMAN, A.G.; YANOVSKIY, D.M.; KARGIN, V.A.

Materials of high resilience based on graft copolymers of poly(vinyl chloride) with elastomers. Khim.prom. no.2:96-100 F '62. (MIRA 15:2)

(Vinyl compound polymers)
(Elastomers)

3h990
S/190/62/004/003/010/023
B110/B144

15.8050

AUTHORS: Minsker, K. S., Kronman, A. G., Teplov, B. F., Rylov, Ye. Ye., Bort, D. N.

TITLE: Stereospecific homogeneous vinyl chloride polymerization

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 3, 1962, 383-388

TEXT: The effect of various polar solvents (nitro compounds, amines, amides, nitriles, ethers, esters, ketones, aldehydes, acids, anhydrides, and heterocyclic compounds) on the polymerization of vinyl chloride (I) was studied to determine the structure of the polymer formed. Polymerization was conducted for 18 hrs between 0 and 60°C in an N_2 atmosphere with radical initiators ($8 \cdot 10^{-4}$ moles/mole of monomer). Films kept at 120°C for 2.5 hrs were used for the electronographic determination of crystallinity. Only few solvents yielded stereoregular PVC structures. Electron diffraction patterns showed four diffuse rings. HCOOH, CH_3COOH, C_2H_5COOH, C_3H_7COOH lead to a higher order of the polymer chain and produce two more diffuse bands of aliphatic aldehydes yielded crystalline PVC. Electron diffraction patterns showed some new lines with d = 5.07, 5.27 Å (instead of 5.16);

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Stereospecific homogeneous ...

2.52, 2.62 Å (instead of 2.56); 2.26, 2.31 Å (instead of 2.28); 1.74 and 1.69 Å. Low yields and molecular weights suggest: (1) that aldehydes regulate the molecular weight in radical polymerization of I; and (2) chain transfer. $CHCl_3$ and CHI_3 were used for chain rupture, since the formation of a regular structure is easier at low molecular weights. PVC with the characteristic viscosity of 0.1 was obtained with 1 mole $CHCl_3$ per monomer-mole. Absence of aldehyde in the system (monomer initiator and aldehyde) leads to amorphous PVC. Substitution of azoisobutyric dinitrile by peroxide initiators yielded poorly crystalline PVC. Peroxide on the basis of butyric aldehyde yielded highly crystalline PVC. Electron diffraction patterns of PVC twice reprecipitated PVC showed further new bands with d = 1.89, 1.54, and 1.44 Å. Free radicals formed by the decomposition of the hydroperoxide group in peracids initiate the radical polymerization of I in the presence of aldehydes so that adding of initiators becomes unnecessary. Complexes of aldehyde and vinyl chloride cause the formation of crystalline PVC. Conclusions. (1) The C=O groups do not affect the crystallinity, since amides, esters, ketones, acids, and anhydrides are ineffective. (2) Regularity (but not crystallinity) is increased in the

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systems containing COOH groups. (3) Crystallinity is caused by aliphatic aldehydes only. Stereospecificity is affected by substituents in aldehydes and acids ($(CH_3)_2CHCHO$, CCl_3COOH). There are 1 figure and 1 table. The reference to the English-language publication reads as follows: P. H. Burleigh, J. Amer. Chem. Soc., 82, 749, 1960.

SUBMITTED: February 23, 1961

Card 3/3

RAZUVAYEV, G.A.; MINSKER, K.S.; KRONMAN, A.G.; SANGALOV, Yu.A.; BORT, D.N.

Mechanism of homogeneous radical stereospecific polymerization of vinyl chloride in aldehydes. Dokl. AN SSSR 143 no.5:1116-1118 Ap '62. (MIRA 15:4)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I.Lobachevskogo. 2. Chlen-korrespondent AN SSSR (for Razuvayev).
(Vinyl compound polymers)

S/020/62/143/006/015/024
B106/B138

AUTHORS: Bort, D. P., Kronman, A. G., Minsker, K. S., Shtarkman, B. P., and Kargin, V. A., Academician

TITLE: Electron microscopic study of crystalline polyvinyl chloride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1345-1347

TEXT: Electron microscopic investigations of highly crystalline polyvinyl chloride were carried out for the first time. To prepare the specimens, one drop of a solution of the polymer in cyclohexanone was put on the surface of distilled water saturated with cyclohexanone. The resulting film was applied to a collodion base. Such specimens were crystallized by heating to 80, 100, and 120°C for different periods.and were compared against amorphous specimens obtained by drying the film at room temperature. In the electron microscope specimens heated to 100°C for 30 min showed, compact formations consisting of parallel bands, the number and dimensions of which increased with heating time. In shape, they were either reminiscent of extended concertinas, crabs, claws, or macromolecules in bundles. These bundles were sometimes bent, the bands re-

Card 1/3

Electron microscopic study...

maining parallel and the density in the bends being lower owing to the more defective crystal structure. The specimens heated to 120°C showed basically the same structures. Specimens crystallized at 80°C (near the brittle temperature of the polymer) showed triangles and rhombs as morphological formations. Strangely bent stripes and disks always formed the background of the preparations. When the surface of the crystalline foils was etched in dichlorethane, the bands showed a transversely folded structure (thickness of the folds 300 Å, length 800 Å). The position of the folds in the bands fitted very well into the formation mechanism for bands proposed by V. A. Kargin and G. L. Slonimskiy (Vvedeniye v fiziko-khimiyu polimerov (Introduction to the physical chemistry of polymers), M., 1960, p. 118). After etching, the background surface also changed a fibrous structure. It is probable that these fibrous structures cannot produce more perfect shapes (bands) due to the prevailing kinetic conditions. The stability of the crystalline structures was studied by intense electron irradiation of the film base in the electron microscope. The crystallites showed high strength in all cases. In crystalline forms obtained from a solution of polyvinyl chloride in dichlorethane, no new forms were observed other than the morphological ones described. There are 3 figures. The English-language reference reads as follows: P. H. Till,.,

Electron microscopic study...

S/020/62/143/006/015/024
B106/B138

J. Polym. Sci., 24, 301 (1957).

SUBMITTED: January 19, 1962

Card 3/3

RAZUVAYEV, G.A.; MINSKER, K.S.; KRONMAN, A.G.; SANGALOV, Yu.A.

Stereospecific effect in the homogeneous free radical polymerization of vinyl chloride in aldehydes. Vysokom.soed. 5 no.11:1615-1619 N '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete imeni Lobachevskogo.

ACCESSION NR: AT4020699 S/0000/63/000/000/0045/0047

AUTHOR: Minsker, K. S.; Kronman, A. G.; Sangalov, Yu. A.; Bort, D. N.; Razuvayev, G. A.

TITLE: Crystalline polyvinyl bromide

SOURCE: Karbotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 45-47

TOPIC TAGS: polymerization, stereospecific polymerization, crystalline polymer, block polymerization, polyvinyl chloride, polyvinyl bromide, butyraldehyde

ABSTRACT: Crystalline polyvinyl bromide was prepared by homogeneous free-radical stereospecific polymerization at room temperature in a butyraldehyde medium. After 5 hours, the yield of polyvinyl bromide was 5-6% with a 0.02% active oxygen content in the aldehyde. The resulting polymer was a white powder with an absolute viscosity of 0.912 cp at 20C in dichlorethane. The absolute viscosity of highly crystalline polyvinyl chloride obtained under the same conditions was 0.939 cp. X-ray patterns of annealed unoriented polyvinyl bromide films obtained by block polymerization and by the polymerization of the monomer in a butyraldehyde solution are given. The maximum degree of crystallinity of polyvinyl bromide was obtained at a molar ratio of monomer to aldehyde = 1 : 1. Addition of water and alcohols to

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000826620018-8"

ACCESSION NR: AT4020699

the homogeneous stereospecific system produced a strongly amorphous polymer structure. By polymerizing the monomer in ether solutions, a sufficiently high degree of crystallinity could be retained. Orig. art. has: 1 figure.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom gosudarstvennom universitete im. N.I. Lobachevskogo (Scientific Research Institute of Chemistry, Gor'kiy State University)

SUBMITTED: 09Apr62 DATE ACQ: 20Mar64 ENCL: 00

SUB CODE: OC NO REF SOV: 005 OTHER: 003

Card 2/2

ACCESSION NR: AP4045435 S/0190/64/006/009/1684/1687

AUTHOR: Berlin, A.A., Ganina, V.I., Kargin, V.A., Kronman, A.G., Yanovskiy, D.M.

TITLE: Formation of salt groups by the reaction of poly[vinylchloride] with nitrile and methylvinylpyridine rubbers

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 9, 1964, 1684-1687

TOPIC TAGS: poly[vinylchloride], nitrile rubber, methylvinylpyridine rubber, plasticization, polymer infrared spectrum polymer, impact strength, pyridine salt, volume resistivity, grafted copolymer

ABSTRACT: The proposed mechanism of formation of grafted copolymers, their infrared spectra, volume resistivity and some physico-mechanical properties of the products of coplasticization of poly[vinylchloride] (PVC) with nitrile and methylvinylpyridine synthetic rubbers were investigated on 0.08 mm thick films made from a 1:1 mixture of PVC and rubber. Models for the grafted copolymers of PVC with methylvinylpyridine rubbers (MVP) were low-molecular pyridine salts. The absorption spectra of PVC, MVP and their coplasticization products showed that the absorption bands of PVC and rubber appear in the spectrum of the coplasticization product either unchanged or with a slight displacement.

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ACCESSION NR: AP4045435

Some bands characteristic of PVC coalesce with the corresponding MVP bands. There, the width and intensity of the separate bands change. The appearance of new bands for the reaction product at 1628 and 1470 cm^{-1} can be explained by the absorption of the pyridine ion, for which two characteristic bands lie in the regions of 1630-1640 and 1485-1490 cm^{-1}. The low-molecular pyridine salt shows a very sharp peak at 1636 cm^{-1} anc a wide intensive peak with a maximum in the region of 1470-1480 cm^{-1}. It has been confirmed by the spectra that during the coplasticization of PVC and MVP, by the interaction of their functional groups, grafted copolymers having the structure of high-molecular pyridine salts are produced. The volume resistivity data for PVC-MVP and PVC-nitrile grafted copolymers as well as for the coplasticization of PVC with butadiene and butadiene-styrene (SKS-30) rubbers, are tabulated. The volume resistivity decreases considerably if the amount of rubber, containing functional groups which interact with the chlorine atoms of PVC, is increased. This increase in electrical conductivity for PVC compositions with rubber may be due to the formation of an ionic structure in the grafted copolymers or to the accumulation of hydrogen chloride in the system, as a result of the dehydrochlorination of PVC during plasticization. Analysis of aqueous-acetone extracts showed the absence of chlorine and hydrogen atoms in the composition. The

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coplasticization products also have a high impact strength. Compositions of PVC with nonpolar rubbers containing no functional groups able to react with PVC are characterized by a low impact strength and low relative elongation, due to the absence of a chemical bond between PVC and the rubbers, as well as to their incompatibility. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: none

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Card 3/3

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AUTHOR: Berlin, A.A., Kronman, A.G., Yanovskiy, D.M., Kargin, V.A.

TITLE: Mechanism of the processes occurring in the coplasticization of poly[vinylchloride], nitrogenous rubber, methylvinylpyridine, isoprene, graft polymer, polymer impact strength, hydroquinone

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 9, 1964, 1688-1692

TOPIC TAGS: coplasticization, copolymer, poly[vinylchloride], nitrogenous rubber, methylvinylpyridine, isoprene, graft polymer, polymer impact strength, hydroquinone

ABSTRACT: The properties of grafted copolymers synthesized by the joint plasticization of poly[vinylchloride] (PVC) with nitrile (SKN) and methylvinylpyridine (MVP) rubbers were investigated in order to clarify the molecular and radical mechanisms occurring during the formation of these copolymers. Films 0.4-0.6 mm thick obtained from a 0.5% solution of polymer in cyclohexanone at a PVC: rubber ratio of 9:1 were tested for strength and viscosity. It was found that the maximum tensile strength for films of grafted copolymers is much lower than for films obtained from the corresponding mechanical mixtures. This is due to the loosening of the polymer structure resulting from the grafting process, which leads to the formation of systems characterized by lower density

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and air-filled micropores. Viscosimetric investigations showed that the intrinsic viscosity of mechanical mixtures of PVC with MVP-15, SKN-18, SKN-26 and SKN-40 is intermediate between the viscosities of the initial polymers, but that the viscosity of the corresponding coplasticization product is lower than the viscosity of either initial polymer. However, the viscosity of the coplasticization product of PVC with isoprene rubber (SKI) and that of their mechanical mixture are almost identical and are intermediate between the viscosities of the initial polymers. This is due to the absence of functional groups in isoprene rubber able to react with PVC, which results in a mechanical mixture during their coplasticization. The specific viscosity-concentration curves for a PVC composition containing 10% MVP-15, plasticized for 2.5, 5, 10 and 20 min., show that the viscosity decreases with decreasing reaction time while the Huggens constant increases. During the plasticization of PVC with 10% isoprene rubber, the viscosity remains unchanged with time, but the concentration-viscosity curves for 2.5, 5 and 20 min. almost agree. This confirms the theoretical difference in the processes of plasticization of PVC with rubbers with or without functional groups which can react with it. The effect of the addition of hydroquinone to the mixture on the properties

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of the coplasticization product of PVC with rubbers was also studied. Plasticization with 1% hydroquinone, used as an acceptor of free radicals, showed that hydroquinone does not affect the impact strength of the samples and decreases the reduced viscosity of the plasticization products only slightly. Thermal dynamic curves show that hydroquinone by hindering the recombination of radicals and cross-linking, improves the flow properties of the composition slightly. The decrease in temperature promotes the destruction of the macromolecules during mechanical processing. On the basis of the experimental data, it was established that the role of radical processes in the formation of grafted polymers is small. Orig. art. has: 4 figures and 2 tables.

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